Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ADDITIONS TO THE JAPANESE LAND SNAIL FAUNA. II.

BY HENRY A. PILSBRY.

The discovery of the forms described herein is due to the well-directed industry of Mr. Y. Hirase, of Kyoto, Japan, to whom the Academy is indebted for many Japanese land snails. There can be little doubt that the land molluscan fauna of Japan will prove to be very prolific in specific forms, like most insular faunas.

The Clausilias of Japan have been worked up by Dr. O. Boettger, who in his masterly *Clausilienstudien* has laid a firm foundation for future builders. Subsequent work has been done by Kobelt, von Moellendorff, Smith, Sykes and the present writer. Arthur Adams' contribution to the literature of Japanese Clausilias is, like all of his Japoniana, quite worthless.

Clausilia hakonensis n. sp. Pl. XIV, figs. 1, 2, 3.

Shell rather slenderly fusiform, moderately attenuated above, the earlier 3½ whorls scarcely increasing in diameter, then gradually increasing to the penultimate whorl which is widest, the last whorl being distinctly compressed and tapering. Whorls 12. Reddish or olivaceous brown, paler below the sutures, glossy where not eroded, distinctly, finely striated obliquely. Aperture subvertical or slightly oblique, ovate, the peristome continuous, white, well expanded. Superior lamella strong, oblique, reaching the margin, continuous with the spiral lamella, but becoming abruptly lower at the junction. Inferior lamella converging to the superior, strongly folded, rapidly tapering below, becoming very high, stout and very strongly spiral within. Subcolumellar lamella very deeply immersed, not visible from the aperture. Principal plica rather short; upper palatal plica short, oblique, passing into a strong, curved lunella, which is connected below with the middle of the rather short lower palatal plica, somewhat like a Greek letter τ inverted.

Length 32, diam. of penultimate whorl 7 mm.; length of aperture 7.7, width 5 mm.

Hakone Mts. (B. Schmacker), types No. 60,370, coll. A. N. S. P.

A *Hemiphœdusa*, differing from all of the *platydera* group by the strongly spiral and heavily developed inferior lamella and wholly immersed subcolumellar lamella. The clausilium has the characteristic parallel-sided contour of the section. *C. hakonensis* will become the type of a new group or "Formenkreis" in *Hemiphœdusa*, characterized by the strongly spiral, *Stereophœdusa*-like inferior lamella.

Clausilia awajiensis n. sp. Pl. XIV, figs. 15, 16, 17.

Shell shortly rimate, obesely fusiform, thin, a little transparent, strongly but shortly attenuated above, the last whorl decidedly tapering. Corneous-brown; the last whorl reddish, glossy, distinctly, finely striate. Whorls 9½. Aperture small, pyriform, the peristome white, moderately expanded, rather thin. Superior lamella rather thin, oblique, continuous with the spiral lamella. Inferior lamella very low and inconspicuous, stronger within and almost vertically ascending. Subcolumellar lamella not reaching the lip-edge, even immersed. Principal plica long, reaching almost to the lip, extending inward beyond the lateral lunella. Upper palatal plica very short, its outer end connected with a rather strong, oblique lunella, recurved toward its lower end; no lower palatal plica. Clausilium slender, tongue-shaped, emarginate posteriorly, slowly tapering below.

Length 12⅓, diam. 3½ mm.

Fukura, Awaji Island (Mr. Y. Hirase).

A *Hemiphœdusa* near *C. aurantiaca* Bttg., but with fewer whorls, the lunella more lateral, not I-shaped, a lower palatal plica being absent.

Clausilia subaurantiaca n. sp. Pl. XIV, figs. 5, 6, 7.

Shell slenderly fusiform, attenuated above, the last whorl rather narrower; brown, but slightly glossy, weakly striate, more strongly so on the last whorl. Whorls nearly 11, the upper convex, the last two nearly flat. Aperture small, somewhat oblique, retracted and with a well-marked sinulus above, pyriform, produced; peristome thick, well reflexed. Superior lamella strong, oblique, continuous with the spiral lamella. Inferior lamella immersed, inconspicuous in a front view, becoming strong and subvertical within. Subcolumellar lamella very weak, not extending upon the expansion of the lip, or immersed. Plica principalis very long (the whorl outside a little swollen above it), extending nearly to the lip. Upper palatal plica extremely short, united with the lateral, nearly straight lunella; no lower palatal plica. Clausilium long, tongue-shaped, somewhat tapering toward the blunt apex.

Length 16, diam. 3 mm.

Deyai, Prov. Nagato (Mr. Y. Hirase).

This *Hemiphœdusa* differs from *C. aurantiaca* Bttg. by wanting a lower palatal plica (which in *C. aurantiaca* makes an I-like figure with the lunella and the upper palatal plica); by the lateral, not ventral, position of the lunella, and the more slender contour. *C. awajiensis* is much more obese.

Clausilia aulacophora n. sp. Pl. XIV, figs. 18, 19, 20.

Shell small, slender, moderately attenuated above, opaque, dull reddish brown, paler above; finely striate, the last whorl more coarsely so. Whorls 10, convex, the last short, compressed laterally, hardly narrower than the preceding, a little turgid below the suture and at the base. Aperture small, pyriform, with well-defined and slightly retracted sinulus. Peristome white, thickened and well expanded, the outer margin excavated above. Superior lamella strong, oblique, continuous with the spiral lamella, and extending to the margin; a groove on the right side of it, usually producing a notch or emargination in the upper margin of the lip, and followed by a small rounded tubercle, to the right of which there is sometimes a second shallow groove in adult shells. Inferior lamella immersed, becoming strong and subvertical within. Subcolumellar lamella completely immersed. Principal plica a half whorl long, visible within the aperture. Upper palatal plica short, continuous anteriorly with and curving into the lunella, which is united with the middle of the lower palatal plica. There is a punctiform plica below the latter. Clausilium long, tongue-shaped, emarginate behind, the margins slowly converging toward the apex, which is bluntly attenuated.

Length 10, diam. 2.1 mm.

Fukura, Awaji Island (Mr. Y. Hirase).

Belonging to the Hemiphædusan group of *C. platydera*, as defined by Dr. Boettger, this small species is well distinguished by the groove in the peristome on the right side of the superior lamella.

Clausilia Hirasei n. sp. Pl. XIV, figs. 8, 9, 10, 11.

Shell small, solid, slenderly fusiform, regularly tapering above to an obtuse apex; glossy, irregularly striate, chestnut brown. Whorls 8–8½, rather weakly convex, the last two long, last whorl somewhat narrower, compressed. Aperture small, rather rhombic; peristome narrowly expanded, a little thickened. Superior lamella low, separated widely from the spiral lamella. Inferior lamella immersed, becoming strong and vertical within. Subcolumellar lamella weak but emerging. Principal plica less than a half-whorl long, extending well inward beyond the lateral lunella. Upper palatal plica oblique, not united with the lunella, which is nearly straight above, curved below. Three short sutural plicæ are developed above the upper end of the lunella, the second one shortest, upper one low; within the upper end of the spiral lamella there is sometimes an inserted lamella (*lamella inserta*), or perhaps this is a recrudescence of the inferior lamella; and outside of it there is a short fulcrum (*lamella fulcrans*, fig. 10, *l.f.*) and a longer parallel lamella (*lamella parallela*, fig. 10, *l.p.*).

Length 9.3, diam. 2.2, length of aperture 2.2 mm.

Length 7.3, diam. 2.2 mm.

Kagashima, Satsuma (Y. Hirase).

This is, so far as I know, the smallest Japanese *Clausilia* known. Internally it has the straightly vertical inferior lamella of *Hemiphœdusa*, but in several fresh specimens opened I found no clausilium. In the development of the sutural plicæ it resembles *C. hyperoptyx.* The superior lamella is widely separated from the spiral lamella, and there is a *lamella inserta* developed in some examples. The internal complication is greater than in any other Japanese species known to me. Fig. 10 of Plate XIV, is diagrammatic.

It is named in honor of Mr. Y. Hirase, of Kyoto, who has brought to our knowledge a large number of interesting Japanese land snails.

Clausilia hyperoptyx n. sp. Pl. XIV, figs. 12, 13, 14.

Shell small, slender, moderately attenuated above, glossy, of a dark, rich reddish-chestnut color, finely and rather irregularly, not deeply, striate, the last whorl densely and more deeply so. Whorls 8½, convex, the last more flattened, a trifle narrower than the preceding. Aperture ovate, the peristome thick, expanded, whitish at the edge. Superior lamella rather low, vertical, attaining the margin, widely disconnected from the spiral lamella. Inferior lamella immersed, scarcely visible in a front view, strong and vertical within. Subcolumellar lamella emerging, continued to the edge of peristome. Principal plica about a half-whorl long, visible within the aperture. Upper palatal plica very short, slightly united with the nearly straight, oblique lunella, which is lateral in position. Two short sutural plicæ developed . a little further inward than the upper end of the lunella. Spiral lamella and inferior lamella of equal length within, a rather long *lamella fulcrans* and a *lamella parallela* developed, each standing free. Clausilium rather narrow, parallel-sided, bluntly tapering at the apex.

Length 10, diam. 2.2, length of aperture 2.1 mm.

Loo Choo Islands (Mr. Y. Hirase).

This slender, dark-colored *Hemiphædusa* is a beautiful little species, distinguished by the two sutural plicæ and the development of a fulcrum and parallel lamella, as in *C. Hirasei.* It differs from that species in the dark color, attenuated and concave spire, stronger superior lamella, and various other details of the closing apparatus.

C. Hirasei and *C. hyperoptyx* form a new group of *Hemiphædusa* characterized as follows:

Superior lamella widely separated from the spiral lamella; a fulcrum and parallel lamella present; sutural plicæ developed; upper palatal plica independent or united with the well-developed lunella; no lower palatal plica.

Just what relation this group holds to Dr. von Moellendorff's group of *C. sublunellata* I do not know, but as he does not describe the complicated closing apparatus I find in my species, I presume it to be quite different.

Clausilia japonica var. **surugæ**, n. v. Pl. XIV, fig. 4.

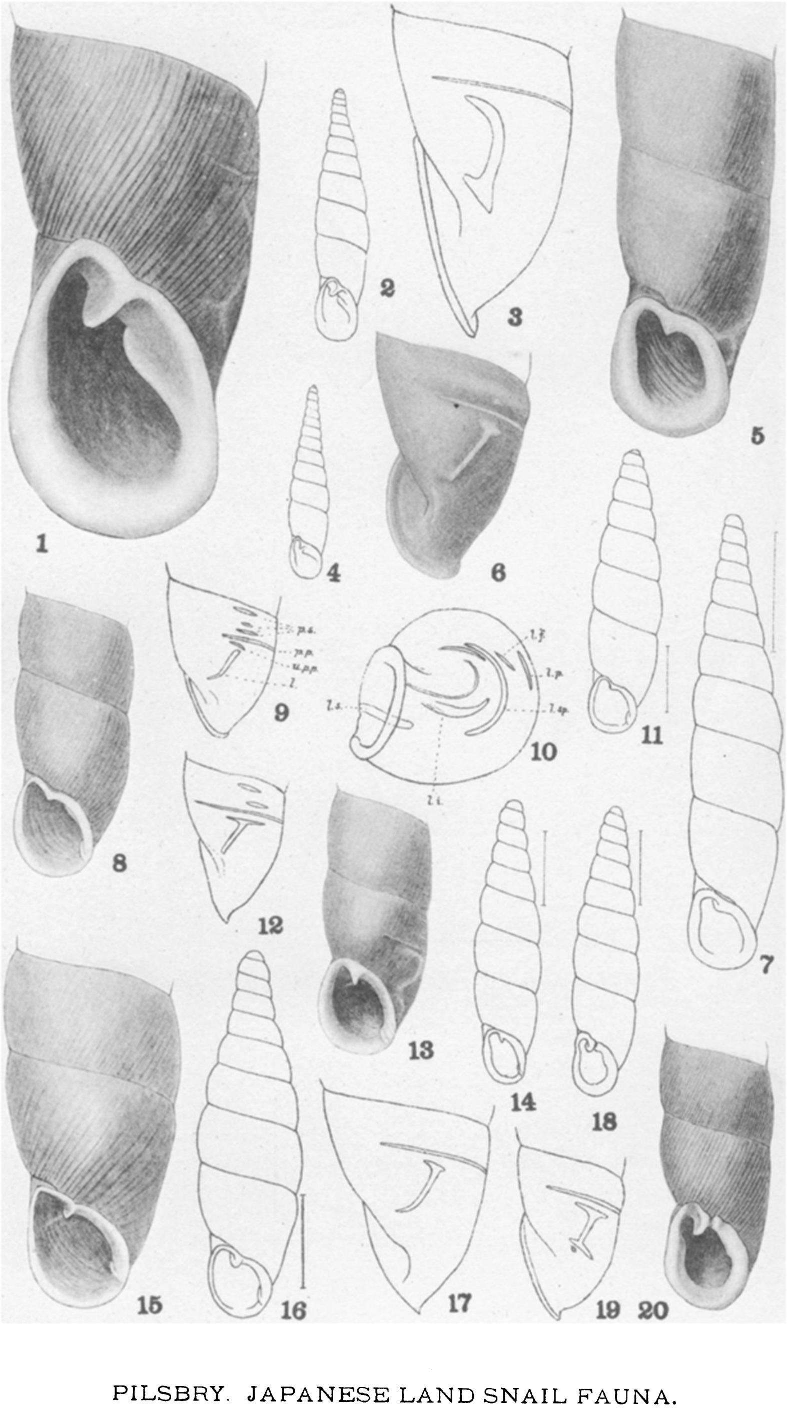
Similar to *C. japonica* but smaller, strongly attenuated above for a longer distance, the aperture smaller with rather stronger principal lamella; upper palatal fold shorter, the lower palatal short or obsolete.

Mikuria, Prov. Suruga (Mr. Y. Hirase).

Having examined some hundreds of specimens of *C. japonica* from several localities, collected by Mr. Stearns, Mr. Hirase, Prof. M. R. Gaines and others, I conclude that *C. nipponensis* is hardly tenable as a variety. The gibbous penultimate and slender last whorl occur sporadically among typical *japonica.* The size varies a good deal in *C. japonica,* but the above-described variety presents a peculiar and quite recognizable contour.

EXPLANATION OF PLATE XIV.

Figs. 1–3. *Clausilia hakonensis* n. sp. Fig. 2, natural size.
Fig. 4. *Clausilia japonica* var. *surugæ* n. var., natural size.
Figs. 5–7. *Clausilia subaurantiaca* n. sp.
Figs. 8–11. *Clausilia Hirasei* n. sp. Fig. 10, diagrammatic. *l.*, lunella; *l.f.*,· fulcrum or *lamella fulcrans; l i.*, inferior lamella; *l.p.*, parallel lamella; *l.s.*, superior lamella; *l.sp.*, spiral lamella; *p.p.*, principal plica; *p.s.*, sutural plicæ; *u.p.p.*, upper palatal plica.
Figs. 12–14. *Clausilia hyperoptyx* n. sp.
Figs. 15–17. *Clausilia awajiensis* n. sp.
Figs. 18–20. *Clausilia aulacophora* n. sp.



PILSBRY. JAPANESE LAND SNAIL FAUNA.